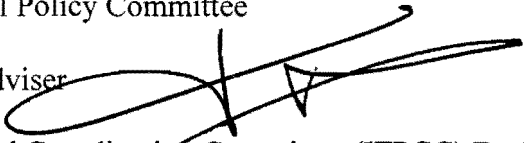


MEMORANDUM

January 27, 2011

TO: Government Operations and Fiscal Policy Committee

FROM: Dr. Costis Toregas, Council IT Adviser 

SUBJECT: Interagency Technology Policy and Coordination Committee (ITPCC) Desktop Replacement Guidelines and CARS Initiative Review

Expected to attend:

Dick Leurig, Chair of ITPCC CIO Subcommittee and Montgomery College Director Emeritus for Future Technology and Innovation Initiatives  
Agency CIOs may also attend  
Gary Thomas, ITPCC Staff  
Dan Hoffman, Organizational Reform Commission member and Chair, Working Group #2 on Consolidation of Overlapping Functions, Programs and Services

**Summary of staff recommendations to the GO Committee:**

1. Support explicit PC replacement guidelines and encourage their adoption and application, both within and across agencies.
2. Provide migration strategy for Windows XP and make its costs explicit in the CIP long term program.
3. Request that ITPCC explore new ways of supporting County employees with modern technology at lower cost levels through 4 explicit strategies:
  - collective action
  - reduction of inventory of PCs
  - reduction of purchase and maintenance prices
  - increased use of mobile technology
4. For both PC replacement and CARS initiatives, request that an **effort be made to develop separate short term** (for implementation during the FY12 budget deliberations) **and longer term solutions and strategies.**

## **ITPCC Desktop Replacement Guidelines - December 2010**

A document detailing guidelines for desktop computer replacement was developed in 2002. The MFP (now GO) Committee requested that an update of that plan be performed, and ITPCC has been conducting internal surveys and analysis to perform this update function over the last year. A draft summary of the findings, expected to be approved by the ITPCC Principals in their February 7, 2011 meeting, is provided to the Committee on ©1-4.

It is clear that the result of budget restrictions on the technology procurement efforts of all agencies is an aging PC inventory, and this could spell difficulties, both in the use of PCs and in the dramatically rising cost estimate to perform a “catch up” effort some time in the future to bring all equipment in compliance with industry standards (estimated on ©2 at \$50 million by the end of 2011, if all aging PCs at end of lifecycle were to be replaced).

Compounding this problem is Microsoft’s expiration of support for Windows XP, which will bring more challenges to County systems. Replacing the operating systems on tens of thousands of machines, and doing it on the more modern hardware platforms they need, is a major cost which is not identified as a pending liability in the financial plan, nor in any other budget document the GO committee has seen from the Executive describing future budget requirements.

Given the difficult revenue situation which the 5 year County financial forecast is showing, as well as the demand from competing service delivery programs, it is difficult to imagine a budget strategy which fully funds the recommended PC replacement policy in the next two or three budget cycles at the suggested level. But the aging systems are part of a necessary infrastructure, so a solution must be found in non-traditional strategies. Some possible new directions are noted here for discussion purposes before the budget proposal for FY12 is presented to the Committee by the Executive.

1. Collective action. The ITPCC Desktop Replacement Guidelines reflect explicit guidelines for each tax-supported agency. It is worthwhile to explore the implementation of these strategies across agencies simultaneously, and to see whether cost savings derived from collective action might allow for a larger number of replacements than would be possible under an “each agency does its own” plan.
2. Reduce the inventory of PCs. There are almost 70,000 PCs across the County enterprise, a number which perhaps could be reduced through a current use and reallocation analysis across all agencies. Industry best practice is to ensure that the device used matches the task at hand, and it is possible that some PCs could be eliminated altogether because of inadequate use, or replaced with less expensive technology (Netbooks, thin client PCs, mobile devices and smart phones). ITPCC is in an ideal position to undertake this inventory reduction, as it engages both CIOs and agency Principals.
3. Reduce the cost of buying and maintaining PCs. It is not uncommon to find governmental and educational agencies outsourcing to the private sector parts of or the entire sequence of three essential steps to provision workers with IT: procurement of equipment, maintenance of equipment, and Help Desk services. The total package is called “Seat Management” and is the route that Montgomery County Government took more than 10 years ago with good results in terms of costs and service quality. Organizing economies of scale by offering the same contracted services to other agencies is high on the options list for this year and, indeed, the CARS initiative addressed in the second part of the packet has an initiative exploring one element (Help Desk) across agencies. To the degree that this cross agency effort can be

accelerated, budget results will be helpful and provide a way to respond to the PC suggestions currently under review.

4. Change the paradigm of technology needed to support workers in their work environment. There has been a major shift of technology aimed at empowering workers through small, inexpensive, and agile technologies. WiFi and other broadband technology provides connectivity to devices such as iPads, smart phones and Netbooks in ways not imagined a decade ago, and can reposition the worker IT equipment cost curves to more acceptable levels. Cloud computing, which is rapidly becoming the technology of choice for the federal government, will allow workers to access needed information, no matter where they are or what device they are using. The article “As the Web Goes Mobile, Colleges Fail to Keep Up” from the Chronicle of Higher Education on ©5-9 underlines some of these changes in the academic world, and the opportunities it outlines are easily imagined in general government work as well. Again, collective action is of the essence, and ITPCC can play a key role in identifying potential options for the Committee to endorse across agency budgets.

As the ITPCC issues its final PC replacement guidelines, it is important to re-examine the environment, both fiscal and technological, and ensure that the guidelines indeed reflect the budget realities and take advantage of changes in the technology platform, user requirements, and citizen expectations for rapid and accurate service. Staff suggests that the upcoming budget submissions for IT equipment be evaluated on an enterprise-wide basis, using a mechanism which reflects the three-pronged alternative strategy described in this packet. A start can be made in FY12, and more should be expected in subsequent budget cycles.

### **ITPCC CARS Initiative Review**

The Cross Agency Resource Sharing initiative combines the resources and ideas of all tax-supported agencies in 9 specific support areas:

- Utilities
- Fleet
- Administrative functions (payroll, budget, finance, training, etc.)
- Procurement
- Employee & retiree benefit plans (health, retirement, etc.)
- Mailing, printing and document management
- Information Technology
- Facilities planning, design, construction, and maintenance
- Space Utilization

The Committee will have a chance to review the status of these efforts in a subsequent worksession (February 28, 2010). However, the ITPCC is responsible for the Information Technology work and will provide an update on its important work on 8 different projects. The Executive summary of the top 4 efforts is provided on ©10-12, while the latest report of the entire 8 project effort is at <http://www.montgomerycountymd.gov/mcgtmpl.asp?url=/content/EXEC/ACAOS/CARS/index.asp>.

The top 4 projects include:

- Mobile data/voice contract consolidation
- IT Help Desk services consolidation
- Cross agency language translation services cooperative
- Interagency GIS strategic plan 2010 implementation phase

The CARS effort is an important way to reduce costs while holding service quality and user satisfaction steady, using collaboration and sharing strategies. The Committee will have a chance to explore ways to encourage such collective action and, more importantly, to review existing budget processes that tend to favor individual agency strategies and change them to foster and deploy collaborative strategies across agencies.

Two of the 4 priority projects include the potential consolidation of services. In this context, it will be important to integrate the comments of Dan Hoffman, Organizational Reform Commission member and Chair of its working group on Consolidation of Overlapping Functions, Programs and Services into the discussion. His perspective on major thematic priorities of ORC, as well as his experience on timelines, change management, and consolidation strategies in the private and governmental space can help provide fresh ideas and to relate IT to the broader question of government efficiency and effectiveness.

## ITPCC Desktop Replacement Guidelines-December 2010

### Report to Government Operations Committee—January 31, 2011

The MFP Committee requested an update to the original ITPCC desktop replacement guidelines that were adopted by ITPCC on October 16, 2001. A standard data collection template was developed to compile the following information: PC categories utilized, actual and recommended replacement cycles by category, current inventory by category, estimated annual replacements, and estimated annual replacement cost. Additional data elements showing the age distribution and replacement backlog were collected to provide a view of the current health of desktop systems across the ITPCC agencies. In June 2010, this data was updated to reflect final FY11 Council budget decisions of May 2010. In November 2010, final updates were completed. In December 2010 the CIO Subcommittee approved the recommended guidelines. The ITPCC received the recommendations on December 21, 2010 and is scheduled for final approval action on February 7, 2011.

PC replacement cycles have been severely curtailed or totally eliminated since FY08 in the tax supported agencies due to the impact of the Great Recession on Montgomery County. The current County strategy is to delay replacement cycles well beyond the industry recommended 4 year cycles for desktops and 3 years for laptop systems to reallocate this capital expenditure to other areas of the budget. In most agencies, PC systems are currently replaced or repaired only when they fail—generally referred to as a ‘fix on fail’ strategy. The overall distribution of systems by age and by risk is presented in the tables below. ‘Green’ systems have no issues, ‘red’ systems present risk. Systems that are 5 years or older present high risk to the organization.

**Table 2: Distribution by Age of PC Systems--November 2010**

	<b>3 years</b>						<b>TOTAL</b>
<b>MCG</b>	296	2,291	2,869	2,664	1,579	214	<b>9,913</b>
<b>MCPS</b>	7,010	2,892	9,625	12,522	12,565	4,260	<b>48,874</b>
<b>MC</b>	1,719	1,760	2,045	1,576	184	0	<b>7,284</b>
<b>MNCPPC</b>	0	91	214	263	150	176	<b>894</b>
<b>WSSC</b>	591	543	0	618	0	0	<b>1,752</b>
<b>HOC</b>	135	85	85	90	40	25	<b>460</b>
<b>Totals</b>	<b>9,751</b>	<b>7,662</b>	<b>14,838</b>	<b>17,733</b>	<b>14,518</b>	<b>4,675</b>	<b>69,177</b>

The distribution by risk within agencies indicates that a large number of installed systems will approach end of lifecycle in FY11. A surge of resources will be required to meet this demand and impact to ongoing business environments such as operating classrooms could be very disruptive.<sup>1</sup>

**Table 3: Distribution by Risk—November 2010**

<b>Agency</b>	<b>1-2 yrs.</b>	<b>3 yrs.</b>	<b>4+ yrs.</b>
<b>MCG</b>	2,587	2,869	4,457
<b>MCPS</b>	9,902	9,625	29,347
<b>MC</b>	3,479	2,045	1,760
<b>MNCPPC</b>	91	214	589
<b>WSSC</b>	1,134	0	618
<b>HOC</b>	220	85	155
<b>Total</b>	<b>17,413</b>	<b>14,838</b>	<b>36,926</b>
<b>%</b>	<b>25.2%</b>	<b>21.4%</b>	<b>53.4%</b>

<sup>1</sup> The costs of physical replacement/installation operations will have to be compressed into small timeframes at increased costs. MCG DCM contract there is a contractual limitation to what L-3 can install per month. To exceed that would require additional resources for L-3 as well as additional costs for the County.

There are 69,177 PC, laptop, and mobile data public safety systems in the ITPCC agencies. Currently, 53.4.3% or 36,926 systems in the ITPCC agencies are four years old or older and at end of their useful life. The estimated funding requirement to replace these systems at end of lifecycle by the end of FY11 is \$49,458,319. Systems five years old and older present the highest risk and comprise 18.2% or 19,193 systems. The estimated cost to replace the highest risk systems is \$18,854,703.

### **Change Driver Considerations<sup>2</sup>**

The primary variable driving PC hardware replacement cycles is applications software requirements. Software supports core business processes essential to delivery of customer services. Hardware must accommodate requirements of software specifications or the software will fail to support the business functions properly. Enterprise and specialized software applications that must be supported in addition to the standard business suites often require higher end hardware configurations which may create pressure for early hardware replacement. Maintaining hardware and software consistency is more efficient and promotes interoperability and communications across our diverse agency operating environments.

Gartner Group recommends maintaining a 4 years replacement cycle for desktop systems, noting that some may require 3 year cycles for special purposes, and 3 years for laptop systems. Gartner also accepts extending these replacement cycles for one year on a one time basis if fiscal requirements like the current recession require capital preservation—but only for one year and if the added risk of failure is acceptable. Some agencies are entering the third year of deferred replacements to meet other budget requirements. Gartner TCO analysis also shows that cost of ownership increases rapidly beyond 4 years, exceeds replacement costs, and does not result in cost savings. To summarize:

- Window XP is at end of lifecycle, Microsoft will only support XP with Service Pack 3 after July 16, 2010. Some agency systems still using the older Office XP productivity suite will see extended support end on July 11, 2011. Windows XP will not be supported at all beyond April 8, 2014. Windows 7, and Office 2010—the latest standard business/educational suite released June 2010 and will require more robust hardware to operate correctly on most currently installed machines. Old systems may not work properly with newest systems across the network resulting in degraded interoperability and communications.
- Risk of computer security incidents and compromise may increase. When support ends, systems operating this software at that time will not receive any security or product updates. This makes them highly vulnerable to malicious attacks and presents a security risk to the organization.
- Cost of ownership and maintenance may increase rapidly beyond 4 years according to Gartner Group. Older systems will add costs, not save money.
- Inconsistency of hardware and software in user agencies, departments, classrooms, or labs makes maintaining standard software configurations and training more difficult and expensive.
- The workload, cost, and operational impacts of accelerated ‘catch-up’ replacements and installations will be severe.

The agencies updated the descriptive categories for the various types of PC systems, developed recommended replacement guidelines for these systems, and estimated the annual replacement cost to maintain this policy. Table 5 below, *ITPCC 2010 Recommended Replacement Cycles by Type*, contains the guidelines for replacement of PC systems in the ITPCC agencies.

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<sup>2</sup> See Appendix A-3, *IT System Change Drivers*, which summarizes major factors that drive the need for constant updates and replacements of IT systems.

## Summary

What is certain is that an organization that fails to maintain information processing technology that keeps pace with innovation and required changes will not be able to achieve business objectives to meet customer requirements over the long term.

- Computer Workstations (PCs) continue to be a critical link between the user and information accessed with IT systems in order to serve county residents
- There are nearly 70,000 PC's deployed in ITPCC Agencies of Montgomery County, with many systems at or beyond the end of useful life
- Lifecycle replacements have been totally eliminated or curtailed since FY08
- Major software operating on older PC's will not be supported by Microsoft beyond April 8, 2014 (about two full budget cycles from now), and the new software requires more robust updated PC's to operate. Office XP will not be supported beyond July 12, 2011. Risk is high.
- Nearly 37,000 PC's (53.4%) will exceed recommended useful lifecycles by the end of FY11 and will require nearly \$50 million to fund replacements.
- Over 19,000 (18.2%) are currently five years old or older, and at high risk of failure. An estimated \$18,854,703 is needed immediately to replace the highest risk systems five years and older
- Cost of ownership rises after year 4, with out of warranty maintenance costs for old systems rapidly exceeding replacement of new systems
- Workload impact on the agencies caused by this need to replace systems and avoid the April 8, 2014 end of Microsoft support for XP based systems will be severe. Currently there is the need to replace approximately double the typical number of systems in half the normal time. This demand is increasing rapidly and will require additional resources for successful remediation under any scenario.

## Recommendations

1. **Rigorously observe the First Rule of Holes<sup>3</sup>.** We are in a deep one and need to stop digging.
2. **Fund replacement of systems older than 49 months, and any Office productivity software that will be beyond extended support after July 12, 2011 as a high priority.** There are currently 19,193 systems in this category, some with Office XP, which will require an estimated \$18.9 million to replace.
3. **Do not institutionalize a fix on fail strategy** for PC replacements as solution to fiscal problems. Gartner Group research shows that cost of ownership increases beyond 4 years, exceeds replacement costs, and does not result in cost savings. Extended replacement cycles should be implemented only when the business impact is assessed as acceptable risk. This should also be accompanied by adequate resourcing to rapidly replace or repair failed systems. It is a costly illusion.
4. **Treat the installed base of PC systems as an important organizational asset**, do not allow it to deteriorate, or use it as a ready funding source for other budget issues. PC desktop and laptop infrastructure represents a nearly \$100,000,000 asset, requiring approximately \$23.4 million annually for replacements.
5. **Adopt the ITPCC PC Replacement Guidelines (Table 5 below).** Standard desktop systems (D2) should be replaced every 4 years, and more specialized systems every 3 years. Standard laptop systems (L1) should be replaced every 4 years in the typical ITPCC work environments, and every 3 years for laptop systems (L2) that are heavily used in mobile situations and subject to environmental stresses. Rigorous data backup practices are recommended for these systems.

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<sup>3</sup> The First Rule of Holes—when you find yourself in a deep hole, stop digging.

**Table 5: ITPCC PC Replacement Guidelines-FY 2011**

<b>PC Category</b>		<b>Description and Examples</b>	<b>ITPCC Rec. Cycles/ysr.</b>	<b>Number of PCs</b>	<b>Annual Replacements</b>	<b>Annual Replacement Cost</b>
D1	<b>Desktop Mainstream Single/limited Purpose</b>	Single or restricted purpose stations; Virtual PCs/Thin Clients; repurposed used systems for single/limited use;	6	1,685	281	\$215,313
D2	<b>Desktop Mainstream Standard</b>	Mainstream Admin. Systems for most office environments; standard business apps., K-12 classrooms, faculty, multi-purpose stations	4	56,670	14,168	\$14,387,223
D3	<b>Desktop Mainstream Accelerated</b>	High End general use systems; Power Users; college faculty; must support enterprise systems like Banner, ERP; GIS and graphic apps.	4	1,420	355	\$889,490
D4	<b>Desktop High End Specialized</b>	Typically high end full function GIS, CAD, graphics, Web developers; lab computers; technical users; complex database apps; support RAID hard drive configurations	3	1,125	375	\$1,362,379
D5	<b>Desktop High End Accelerated</b>	Developers, video editing, specialized instruction, faculty; very high end and specialized applications	3	753	251	\$1,544,638
L1	<b>Laptop Mainstream Standard</b>	Typical mobile laptop for workers with mobile computing requirements; day extenders; support standard business functions.	4	3,883	971	\$1,474,227
L2	<b>Laptop High End Specialized</b>	Upgraded laptop platform for higher level requirements; IT techs, GIS, graphics, Web developers; heavy daily use in variable environments.	3	775	258	\$757,881
L3	<b>Laptop High End Accelerated</b>	Specialized instruction, faculty; IT techs; special needs/custom high end configurations	3	733	244	\$892,154
L4	<b>Laptop - Semi Rugged</b>	Built for durability and specialized for use outside typical office environments; able to operate standard business applications	4	122	31	\$76,250
L5	<b>Laptop - Full Rugged</b>	Built to meet military standards, specialized for use with Public Safety applications and personnel	4	1,600	400	\$1,600,000
L6	<b>Laptop - Tablet</b>	Specialized for use without (keyboard/mouse) able to be used in the field to run standard business applications	3	411	137	\$199,925
<b>Updated: November 15, 2010</b>		<b>TOTALS:</b>		<b>69,177</b>	<b>17,470</b>	<b>\$23,399,480</b>



# THE CHRONICLE

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## Technology

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January 23, 2011

### **As the Web Goes Mobile, Colleges Fail to Keep Up**

*By Josh Keller*

San Francisco

When Laura Patterson, a junior at Nevada State College, had to wait two months for wired Internet access in her new apartment, she relied on her iPhone instead.

"I used it to sign up for classes. I used it to check e-mails," she says. "I used it all the time, for everything."

Hand-held devices like smartphones and tablets are fast becoming the primary way many people use the Internet. Half of all college students used mobile gear to get on the Internet every day last year, compared with 10 percent of students in 2008, according to Educause, the educational-technology consortium.

But many colleges still treat their mobile Web sites as low-stakes experiments. That attitude risks losing prospective applicants and donors through admissions and alumni portals that don't work, and it risks frustrating current students who want to manage coursework and the rest of their lives with their mobile phones, says David R. Morton, director of mobile communications at the University of Washington. "For so many institutions," he says, "mobile is a part-time job, almost an afterthought."

Colleges that have put some effort into mobile have taken one of three paths. Some buy applications from Blackboard, the educational-software and technology giant. Others opt for a competing open-source platform created by the Massachusetts Institute of Technology, which is free to use. Colleges in the third group have built applications themselves. iShoe, an app to track college athletics at Ohio State University, for instance, is expected to help turn casual football fans into connected alumni.

It is not clear which approach will work best. The mobile Web in higher education resembles the Internet as a whole during the late 1990s, says David M. Olsen, a programmer at West Virginia University who has contributed to MIT's open-source platform. "It's a fantastic opportunity to figure out what people really want to

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accomplish on their computers," he says. "It's 1998 all over again."

#### Blackboard vs. MIT

Most colleges do not have the resources to build their own mobile applications from scratch. The environment is changing quickly, and developing new products for each new major device—iPhones, BlackBerrys, Android phones, iPads—can be prohibitively expensive.

That's what Kayvon Beykpour is betting on, anyway. He is vice president of Blackboard Mobile, which builds and maintains mobile applications for dozens of colleges. For "just a yearly subscription, we'll help be your R&D department," he says. The app includes a campus map, a searchable directory, athletics information, and news about the client college. The annual fee is said to be in the ballpark of \$30,000, depending on the size of the college.

He has been working on college mobile apps since he helped build one of the first, an iPhone directory and map of Stanford University, when he was a student there. In 2009, Blackboard bought the company he co-founded, for \$4-million, and started offering a product based off of his design.

The investment in such a young group is a departure for Blackboard, a company whose headquarters, in Washington, resembles a law firm more than a start-up.

Last month, as Mr. Beykpour welcomed a delegation of college clients to its branch office here in San Francisco, the group passed a beer keg, hastily covered up with a towel. Downstairs, programmers coded software while Weezer and table tennis could be heard in the background.

The college officials were meeting to discuss Blackboard's newest offering, a software-development kit, designed to encourage colleges and companies to contribute to Blackboard's basic platform. The idea is to establish the company as a thriving marketplace of college mobile applications, akin to Apple's App Store, Mr. Beykpour says.

The effort is meant to compete with iMobileU, the open-source project started by staff members at MIT, which offers many of the same features as Blackboard's product. Neither platform offers a native application for the iPad; both teams plan to do so.

Colleges can use open-source software free and modify it as they wish. Instead of paying for a company to manage iMobileU, they use their own staff members to install it and to ensure it works with other campus systems, such as the student directory.

The open-source approach has the support of a network of

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developers at Harvard, MIT, and elsewhere, but colleges must dedicate their own staff to support it. Blackboard brings its own team and can spend more on product development, but colleges have to find the money to pay for its services.

Mr. Morton, at the University of Washington, plays both sides of the street. He is a client of Blackboard and has helped to build iMobileU. Not surprisingly, he says colleges should consider both options. iMobileU may call more college resources, he says, but it is also easier to customize than Blackboard's product.

#### Third Roads and Next Levels

The third path, building it yourself, appeals to many colleges that are interested in tailoring mobile Web sites and applications to particular groups, says Douglas Gapinski, a creative director at mStoner, which creates Web sites for colleges. They want to know if there is "content we can generate that's specific to prospective students," he says. Or "is there content that's specific to alumni? Can we see events that are close by to your area?"

Ohio State's application is aimed at one such audience: sports fans. It has been downloaded nearly 10,000 times. While watching a football game at the stadium, they can bring up game and player statistics. They can also watch instant replays, useful when some plays are not shown on the giant screen.

The app has engaged alumni and shown potential corporate partners that the university can develop applications used by a wide audience, says Rajiv Ramnath, an associate professor of computer science who helped build the project. The hope is that it can be used in the future to notify alumni of fund-raising and other campus events.

Stanford officials are having similar discussions about how to reach external audiences with the university's mobile app, iStanford.

Its campus map allows users to browse buildings by their official names, such as Sequoia Hall. But Tim Flood, a senior technology consultant at Stanford, believes that the map could be improved. Using building names might work for students and employees, who already know the campus, but that kind of navigation leaves visitors and prospective students in the dust, he says.

"If you look at our map, you cannot find the physics department—you can only find a physics building," Mr. Flood says.

The map should be more accessible to those who have only a vague idea of what they are looking for, he says. For example, the app could use the visitor's location to provide context-sensitive information about campus events, landmarks, and navigation

within individual buildings.

Stanford has a big campus, Mr. Flood says. "There's a lot of explore and see here. We're very mindful of those outside demographics."

#### Getting off the Desktop

One key to these projects is recognizing the mobility of mobile devices, and not treating them as if they were small desktop computers. Among colleges, even the leading mobile applications and Web sites still function like add-ons; students and others can get much the same information on a personal computer, although perhaps not as quickly.

But many college officials say that will change within a few years. As more people adopt Internet-enabled mobile phones, colleges will be able to take advantage of features like the ability to record information on the fly or to determine somebody else's location.

Colleges often do not realize how far their Web services have fallen behind what students are used to, says Mr. Beykpour, of Blackboard. The Stanford graduate recalls that signing up for courses online was so difficult that it was a "running joke" in the computer-science department.

"Students are using Facebook, Gmail, Twitter, all these Web 2.0 systems every day," Mr. Beykpour says. "It's like their top five Web sites they use. And the sixth Web site is the school Web site, because you have to use it. And that's where the biggest disconnect is."

A student's online relationship with a college still involves such requirements as signing up for classes and checking grades, he says. But, he goes on, colleges house a tremendous amount of data about student choices and social connections that would be useful in helping their students navigate the institution online.

For instance, a mobile app could recommend courses based on what students with similar interests have liked taking. Or an application could allow students on a field trip to instantly post photos and discuss them with classmates. "That's where we're headed," Mr. Beykpour says. "The way I would summarize it all is making your online experience at university more social."

Mr. Flood notes that software used in higher education typically subjects students to nothing more than a series of transactions. That is a missed opportunity, he says. Mobile devices, in contrast, give colleges the chance to bring together all of their key services into one portal that students always have with them.

Creating a cohesive mobile platform does not mean that colleges should try to move everything from their Web sites to a smaller

screen. It can be impossible to know in advance what people want to do on a smartphone, and what they would prefer to leave to a full-size computer.

Stanford learned that through experience. It released a mobile version of its course directory in 2009, assuming that many students, like Ms. Patterson, at Nevada State, would want to enroll in courses on their mobile phones. But few did, surprising the Stanford officials who worked on the project.

Washington's Mr. Morton wishes more colleges would share news about what works on mobile devices and what doesn't. "The thing that we are struggling to do is that we need to form better ways of working as a community among ourselves," he says. "Stanford tries something—what things work for them? We try something. Duke tries something that's really out of the box. How did it work for them? What failed?"

Mr. Flood says he runs focus groups with students every six to 12 months to get input about what is working and what isn't. Reaching students on a mobile phone is an opportunity to build loyalty and demonstrate something about Stanford's core values, he says.

"What differentiates Stanford University from other prestige private institutions?" he asks. "Well, one thing is we establish better relationships through mobile technology, and we have that kind of brand standard as an innovator.

"Institutions that are really thinking about the competition in the future are going to say: Wait—with a very low investment here, we can both increase service and brand our institutions in a much better way."

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# CARS Information Technology Subcommittee Update 9/22/2010

## Summary of Quarterly Report 1 Recommendations

Dick Leurig - Montgomery College (240)-567-2028 Subcommittee Chair

	Stable Data/Voice Control Consolidation	Stable Data/Voice Control Consolidation	Stable Data/Voice Control Consolidation
<b>Level of Service Potential</b>	Same LOS (to public) Improved LOS (internally)	Same LOS (to public) Improved LOS (internally)	Improved LOS
<b>Cost Containment</b>	More than \$500,000 but less than \$1M	More than \$100,000 but less than \$500,000	More than \$100,000 but less than \$500,000
<b>Implementation Timeframe</b>	Midyear FY12	Midyear FY12 / FY13	Midyear FY12 / FY13
<b>Level of Work Required</b>	Significant	Significant	Significant
<b>Implementation Cost</b>	Yes: \$100,000	Yes: \$100,000	Yes: \$100,000
<b>Inter-Agency Coordination</b>	All ITPCC Agencies; Council, OMB; professional services contractor; mobile data and voice services providers	All ITPCC Agencies; Council, OMB; professional services contractor; help desk service providers	ALL ITPCC agencies; Council; OMB; Consultant
<b>Dissenting Members</b>	None	None	None

# CARS Information Technology Subcommittee Update 9/22/2010

## Summary of Quarterly Report 1 Recommendations

Dick Leurig (240)-567-2028 Subcommittee Chair

	Category: CARS Subcommittee Plan 2010 Implementation Phase
<b>Level of Service Potential</b>	Improved LOS
<b>Cost Containment</b>	More than \$100,000 but less than \$500,000
<b>Implementation Timeframe</b>	Midyear FY12 / FY13
<b>Level of Work Required</b>	Significant
<b>Implementation Cost</b>	Yes
<b>Inter-Agency Coordination</b>	MCG-GIS; MNCPPC-GIS; WSSC GIS; and agencies utilizing GIS services and applications; County Council; OMB; MC-MAPS membership; consultants and contractors
<b>Dissenting Members</b>	None

# **CARS Information Technology Subcommittee Update 9/22/2010**

## **Summary of Quarterly Report 1 Recommendations**

**Dick Leurig (240)-567-2028 Subcommittee Chair**

### **Post FALP Issues/Range Opportunities**

1. Mobile and Wired Voice/Data Communications
2. Contractual and Procurement Cooperative/Consolidations
3. Joint Use and Data Center Consolidations
4. Miscellaneous Other